

In the Claims:

Please amend the claims as shown below.

1. (currently amended) An apparatus for recovering a symbol clock signal from an American Television Standards Committee (ATSC) digital television (DTV) signal, the apparatus comprising:

 a downconverter adapted to coherently downconvert the ATSC DTV signal to a baseband signal;

 a delay unit adapted to delay the baseband signal;

 a multiplier adapted to multiply the baseband signal and the delayed baseband signal;

 a band-pass filter adapted to pass a frequency component of an output of the multiplier~~the symbol clock signal~~; and

 a phase-locked loop to generate the symbol clock signal based on an output of the band-pass filter.

2. (original) The apparatus of claim 1, further comprising:

 a receiver adapted to receive the ATSC DTV signal.

3. (original) The apparatus of claim 1, wherein the ATSC DTV signal comprises a pilot signal, and wherein the downconverter comprises:

 a filter adapted to pass the pilot signal; and

 a mixer adapted to mix the pilot signal and the ATSC DTV signal.

4. (original) The apparatus of claim 1:

 wherein the delay unit is adapted to delay the baseband signal by one-half of a chip.

5. (original) The apparatus of claim 1, further comprising:

 an analysis unit adapted to determine for the symbol clock signal at least one of

 the clock frequency;

 the clock phase;

the clock offset;
the Allan variance; and
the clock stability.

6. (currently amended) An apparatus for recovering a symbol clock signal from an American Television Standards Committee (ATSC) digital television (DTV) signal, the apparatus comprising:

downconverter means for coherently downconverting the ATSC DTV signal to a baseband signal;
delay means for delaying the baseband signal;
multiplier means for multiplying the baseband signal and the delayed baseband signal;
band-pass filter means for passing a frequency component of an output of the multiplier means
the symbol clock signal; and
phase-locked loop means for generating the symbol clock signal based on an output of the band-pass filter.

7. (original) The apparatus of claim 6, further comprising:
receiver means for receiving the ATSC DTV signal.

8. (original) The apparatus of claim 6, wherein the ATSC DTV signal comprises a pilot signal, and wherein the downconverter means comprises:

filter means for passing the pilot signal; and
mixer means for mixing the pilot signal and the ATSC DTV signal.

9. (original) The apparatus of claim 6:
wherein the delay means is further for delaying the baseband signal by one-half of a chip.

10. (original) The apparatus of claim 6, further comprising:
analysis means for determining for the symbol clock signal at least one of
the clock frequency;

the clock phase;
the clock offset;
the Allan variance; and
the clock stability.

11. (currently amended) A method for recovering a symbol clock signal from an American Television Standards Committee (ATSC) digital television (DTV) signal, the method comprising:

coherently downconverting the ATSC DTV signal to a baseband signal;
delaying the baseband signal;
multiplying the baseband signal and the delayed baseband signal;
band-pass filtering the multiplied symbol clock signal; and
generating the symbol clock signal based on the filtered baseband signal.

12. (original) The method of claim 11, further comprising:
receiving the ATSC DTV signal.

13. (original) The method of claim 11, wherein the ATSC DTV signal comprises a pilot signal, and wherein downconverting comprises:
mixing the pilot signal and the ATSC DTV signal.

14. (original) The method of claim 11, wherein delaying comprises:
delaying the baseband signal by one-half of a chip.

15. (original) The method of claim 11, further comprising:
determining for the symbol clock signal at least one of
the clock frequency;
the clock phase;
the clock offset;
the Allan variance; and

the clock stability.

16. (currently amended) Computer-readable media embodying instructions executable by a computer to perform a method for recovering a symbol clock signal from an American Television Standards Committee (ATSC) digital television (DTV) signal, the method comprising:

coherently downconverting the ATSC DTV signal to a baseband signal;
delaying the baseband signal;
multiplying the baseband signal and the delayed baseband signal;
band-pass filtering the multiplied symbol clock signal; and
generating the symbol clock signal based on the filtered baseband signal.

17. (original) The media of claim 16, wherein the method further comprises: receiving the ATSC DTV signal.

18. (original) The media of claim 16, wherein the ATSC DTV signal comprises a pilot signal, and wherein downconverting comprises:

mixing the pilot signal and the ATSC DTV signal.

19. (original) The media of claim 16, wherein delaying comprises:
delaying the baseband signal by one-half of a chip.

20. (original) The media method of claim 16, wherein the method further comprises:
determining for the symbol clock signal at least one of
the clock frequency;
the clock phase;
the clock offset;
the Allan variance; and
the clock stability.